

Section 305. HMA BASE CRUSHING AND SHAPING

305.01 Description. Construct a new aggregate base from an existing flexible pavement.

305.02 Materials. If additional aggregate materials are required to supplement the crushed material, the following requirements shall be met:

Dense-Graded Aggregate 21A, 21AA, 22A 902

305.03 Construction. The plans will specify crushing depth, crushing and shaping width, construction staging and shoulder treatment. The HMA mix design for the initial surfacing course must be approved before crushing begins.

- A. **Equipment Requirements.** The crushing machine shall be a self-propelled rotary reduction machine capable of crushing the pavement to the required size and mixing the crushed material with the underlying aggregate base to the required depth.

Suppress dust generated from the pavement crushing operation with an approved water sprinkling system.

Final grading equipment shall include automatic cross slope (crown) control and an automated grade referencing system for longitudinal control.

- B. **Crushing and Grading.** Unless otherwise specified, the longitudinal crushed grade shall be referenced from either the existing pavement surface or new HMA pavement surface.

Prior to crushing, existing HMA or seal coat material on the shoulders may be bladed onto the mainline pavement to be processed into crushed material. Existing HMA pavement shall be uniformly crushed to the required width and depth, including 1 to 2 inches of the aggregate base. After crushing, 95 percent of the crushed material shall have a maximum particle size of 1½ inch, with no particle size exceeding 4 inches.

The crushed material shall be uniformly spread and compacted to the dimensions shown on the plans. When additional material is needed to attain the plan grade or cross section, the material used shall consist of excess salvaged crushed material when available or dense-graded aggregate. Aggregate added shall be either spread uniformly prior to crushing or placed on the crushed surface and remixed to the full crushed depth to obtain a uniform mixture.

- C. **Compacting and Shaping.** The crushed material, at a moisture content not greater than optimum, shall be compacted to not less than 98 percent of the maximum unit weight as obtained by the Michigan Modified T 180 Test in the *Density Control Handbook*.
- D. **Excess Crushed Material.** Excess crushed material, if suitable, may be used as base aggregate or shoulder aggregate.

- E. **Weather Limitations.** HMA pavement shall not be crushed when anticipated precipitation may make the prepared base unstable. Seasonal requirements for crushing shall coincide with seasonal limitation for placing HMA mixtures in section 502.
- F. **Acceptance Criteria.** The Engineer shall use the following criteria to accept the crush and shape work.
1. Crushed material meets particle size requirements.
 2. After final shaping, the maximum allowable variance between the surface and a 10-foot straightedge (any two contacts with the surface), shall be ½ inch.
 3. Just prior to paving, any undulations or variations from the criteria specified in subsections 305.03.B and 305.03.C have been corrected.
 4. Required density shall be maintained until the material has been surfaced.

305.04 Measurement and Payment.

Contract Item (Pay Item)	Pay Unit
HMA Base Crushing and Shaping	Square Yard
Material, Surplus and Unsuitable, Rem, LM	Cubic Yard
Salv Crushed Material, LM	Cubic Yard

- A. **HMA Base Crushing and Shaping** will be measured by completed width and length required on the plans. The pay item does not differentiate between the various depths of crushing required.

Payment for **HMA Base Crushing and Shaping** includes the scarifying, crushing, grading, shaping, rolling, and compacting of existing HMA surface course or portions thereof. Any water needed to obtain the required density will be included.

Any unstable base caused by over watering or the non-uniform application of water shall be repaired at the Contractor's expense.

- B. Excess crushed material from other locations on the project may be used to attain the plan grade and cross section. Excess crushed material used without loading and hauling by truck will not be paid for separately. When trucking is required, excess material used to attain the plan grade or cross section will be measured and paid for, at the final location, as **Salv Crushed Material, LM** or as Aggregate Shoulder per subsection 307.04
- C. Payment for **Material, Surplus and Unsuitable, Rem, LM** will only apply when material is removed from the project site and disposed of per subsection 205.03.P.
- D. When trenching is required, it will be paid for separately as **Trenching**, per subsection 307.04.

- E. When additional aggregate is required, it will be paid for separately as **Aggregate Base** per subsection 302.04. If not included in the contract as a pay item, it will be paid for as extra work.